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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/589,588 06/08/00 KITAMURA

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022469 IM52/0504  
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EXAMINER

DANG, T

ART UNIT

PAPER NUMBER

6

1764

DATE MAILED:

05/04/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

# Office Action Summary

Application No.  
09/589,588

Applicant(s)  
Kitamura et al.

Examiner  
Thuan Dang

Art Unit  
1764



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE three MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on Apr 10, 2001
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above, claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 10 is/are rejected.
- 7) ☒ Claim(s) 4-9 is/are objected to.
- 8) ☐ Claims \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119

- 13) ☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

a) ☒ All b) ☐ Some\* c) ☐ None of:

1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\*See the attached detailed Office action for a list of the certified copies not received.

- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

## Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892) 18) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 19) ☐ Notice of Informal Patent Application (PTO-152)
- 17) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). 4 20) ☐ Other:

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## **DETAILED ACTION**

### ***Claim Objections***

Claims 4-9 are objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim should refer to other claims in the alternative only and/or cannot depend from any other multiple dependent claim. See MPEP § 608.01(n). Accordingly, the claims 4-9 have not been further treated on the merits.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 1, while the invention is directed to a process of conversion of aromatic hydrocarbons, the claim does not recite a conversion step.

Also regarding claim 1, it is unclear what the function of the contacting step is.

Also regarding claim 1, the expression "benzene-containing, aromatic hydrocarbon material" cannot be well understood since benzene itself is an aromatic hydrocarbon. The term

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"aromatic hydrocarbon" appears to be unnecessarily recited in the claims. The recitation of the term makes the above expression confusing. If applicants intend to claim aromatic hydrocarbons other than benzene being co-present with benzene in the feed, an amendment should be made to clarify the feedstock.

Regarding claims 2 and 10, the claims are inconsistent with themselves since applicants do not recite a feed containing more than 1 %wt of non-aromatics. Note that if a fresh feed already contains equal of less than 1% by weight, the step reduction become non-sense.

Also regarding claim 2, the reduction step must be recited positively.

Regarding claim 3, the expression "the aromatic hydrocarbon conversion is for transalkylation" is confusing. This may be caused by reciting the word "for" in the expression.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 and 3 are rejected under 35 U.S.C. 102(b) as being anticipated by either Shamshoum et al (5,030,786) or Buchanan et al (WO 96/24568).

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Either Shamshoum or Buchanan discloses a process of (transalkylation) converting a benzene-containing feedstock containing less than 1 wt% of non-aromatics by contacting the feed with a catalyst (Shamshoum: col. 4, line 38 thru col. 5, line 15; Buchanan: the abstract; table 4).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 148 USPQ 459, that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or unobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later

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invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

Claims 2 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over either Shamshoum et al (5,030,786) or Buchanan et al (WO 96/24568) in consideration with the admitted prior art disclosed in the specification of this application.

Either Shamshoum or Buchanan discloses a process as discussed above.

Either Shamshoum or Buchanan is silent as using a starting benzene feed containing non-aromatics which is derived from gasoline fractionation (see the whole patent to Shamshoum or Buchanan). Either Shamshoum or Buchanan is also silent as to reducing the non-aromatic hydrocarbons from the mixture of benzene and C9 aromatic to at most 1% by weight (review the above 112 rejection). However, as discussed above, the transalkylation feedstock of either Shamshoum or Buchanan requires only a minor amount of non-aromatics and one having ordinary skill in the art has recognized that the benzene fraction extracted from gasoline contains a large amount of non-aromatics (the paragraph bridging pages 2 and 3 of the specification of this application).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified either the Shamshoum process or the Buchanan process by employing the benzene fraction derived from gasoline in the place of the benzene in the Shamshoum process or the Buchanan process since it is expected that using of any benzene for

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the transalkylation with other higher aromatics in the Shamshoum process or the Buchanan process yields similar results.

It would have been obvious to one having ordinary skill in the art at the time the invention was made by further modified the Shamshoum process or the Buchanan process by removing any non-aromatics from the mixture of benzene and the C9 aromatics as discussed above to arrive at the applicants' claimed process since the transalkylation feed of either Shamshoum or Buchanan requires only a minor amount of non-aromatics.

### *Conclusion*

Any inquiry concerning this communication or earlier communication from the examiner should be directed to Thuan Dang, whose telephone number is (703) 305-2658. The examiner can normally be reached on Monday-Thursday from 7:15 A.M. to 5:00 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marian Knode, can be reached on (703) 308-4311.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0661.

T. Dang/TD  
May 2, 2001  
91589588.1st

A handwritten signature in black ink, appearing to be 'T. Dang', written in a cursive style.